the manure is deposited broadcast, and prior to the forming of the drills, it becomes more mixed with the soil, and is more evenly scattered through the space in which the rootlets of the plant will ultimately spread. Hence the plants grow more uniformly, and are less subject to diseases, such as mildew, &c.

Another novel method of applying portable manures is partially followed. By depositing a part of the manure at the period of sowing, and applying another portion when the plants have attained a certain growth, very good results have been obtained. The second manurial application is made when the crop is being hoed for the last time, the manure applied on the surface being stirred into the soil by the use of the paring-plough, drill-grubber, and hand-hoe. In the cultivation of all root-crops, this supplementary manuring produces very marked results, particularly when moisture occurs shortly after the manure has been applied. The best descriptions of manures for the supplementary dressings are those containing a mixture of ammonia and phosphates; Peruvian guano, possessing these, can be profitably used for this purpose. When it is intended to adopt this practice, the manure applied at the period of sowing should be a phosphatic guano or super phosphate—applied at the rate of three or four cwts. per acre—the supplementary application being a similar quantity. Guano to be applied when the plants are well advanced, should be treated with sulphuric acid. The phosphates present will be more readily appropiated by the plants, and the results of the application will consequently be greater. Indeed as a rule, almost all guanos can be profitably treated with acid, whether applied prior to sowing the seed or used for surface manuring. In this country more particularly, the application of portable manures will be found most advantageous in raising root crops, especially turnips and mangels, and success will greatly depend on bringing the soil into a suitable condition by deep cultivation, and frequent stirrings during the growth of the crop.

How to ascertain the Quality of Guano.

As much adulteration of guano has been made, before it reaches the farmer's hands, the following simple rules will be found useful, and can be readily applied. For a precise knowledge of the composition and commercial value of guanos, a thorough chemical analysis is required, and which in many instances has been the means of securing the farmer's interests against the attacks of wilful fraud.

1st. *Colour of Guano.* The colour of coffee with milk is ordinarily that of good guano. If the colour is too grey, it is probably because the article is too earthy. When it is browner, there will in general be found a large quantity of water in it.

2nd. *Taste.* The stronger the flavour of guanos, as salt, piquant, and caustic, the richer they are in ammoniacal salts.

3rd. *Smell.* The smell of guano can scarcely serve as a means of comparison, for it varies with the degree of dryness, or moisture. However, a smell of ammonia is a good sign.

4th. *Consistence.* Good guano is ordinarily oily to the touch. It is in small grains, but sometimes in larger pieces. If the guano be rich in urates, the pieces, when broken, appear shining and crystalized. When the guano is of inferior quality, it is full of earth; it is bad if it contain many stones and gravel.

5th. *Flame.* A small piece of good guano put on a thin blade of platina, and held over the flame of a spirit lamp, will blaze up, burn with a long flame, and leave a residue of charcoal ashes. Guanos poor in organic matter give out less charcoal.

6th. *Testing with Quicklime.* A piece of guano rubbed with a piece of quicklime emits a strong smell of ammonia. Ammonia and the phosphates constitute the chief manurial power of all guanos.

Thistles.

A correspondent in our last number gives an account of his mode of destroying those most troublesome pests of the farm. When these weeds get a strong hold of land, as is the case with thousands of acres in this Province, their complete eradication is a difficult and often protracted operation. In pasture land, thistles may in a few years be entirely got rid of by cutting them off with a spud a little below the surface. And summer fallowing arable land, and pulling them up or cutting them off as they appear,